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ABSTRACT

Designed by the Ilinois Bilingual Evaluation Center as a pilot project, the purpose of this study was to explore the process or nature of events in a bilingual classroom and to investigate the feasibility of using observational techniques to examine this process in an evaluation context. The subjects for the study were three children of Spanish speaking background enrolled in a grade one half-day bilingual program. Each child was videotaped for a full school day, three times throughout the year. The data reported in this paper are taken from the first set of videotapes. Two preliminary analyses are presented. The first is an ethnographic analysis of the language interaction patterns of the target children and their bilingual teacher. The amount of time each language (Spanish and English) is spoken and a functional analysis of language use is discussed. The second analysis is an ecological comparison of the bilingual and regular classrooms as behavior settings. Social and psychological aspects of language use as they vary across settings are discussed. (Author/BW)

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Language Interaction in a Bilingual Classroom:

An Observational Study

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Language Interaction in a Bilingual Classroom:
An Observational Study

Abstract

The study described in this paper was designed by the Illinois Bilingual Evaluation Center as a pilot project. Its purpose is to explore the process or nature of events in a bilingual classroom and to investigate the feasibility of using observational techniques to examine this process in an evaluation context.

The subjects for the study are three children of Spanish speaking background enrolled in a grade one half-day bilingual program. The children attend the bilingual class for half a day (a.m. or p.m.) and then return to their regular classroom in neighboring schools for the rest of the day. Each child was videotaped for a full school day, three times throughout the year (November, February, May).

The data reported in this paper are taken from the first set of videotapes (November). Two preliminary anaysis are presented. The first is an ethnographic analysis of the language interaction patterns of the target children and their bilingual teacher. The amount of time each language (Spanish and English) is spoken and a functional analysis of language use is discussed. The second analysis is an ecological comparison of the bilingual and regular classrooms as behavior settings. Social and psychological aspects of language use as they vary across settings are discussed.

Language Interaction in a Bilingual Classroom:

An Observational Study (1)

While there are a fair number of evaluations of Bilingual programs documenting the effect of Bilingual Education on the academic, social, linguistic and cognitive development of students, none of these has included a worthwhile description of what actually occurs in a bilingual classroom. And while we have evaluative statements about some of the products of Bilingual Education (e.g., reading, math and self concept scores), we know relatively little about its processes. Describing a program with general terms such as "1/2 day", "pull out" or "transitional with Spanish language backup" provide insufficient information for understanding the actual situations in which the children we are evaluating are involved. Observational studies of the bilingual classroom can yield important information to assist us in program evaluation. Therefore, the aim of this pilot study is twofold: to better understand the process or nature of events that occur in a bilingual classroom and to investigate the feasibility of using videotape equipment to examine this process in an evaluation context.

There are positive and negative aspects to using observational methods in evaluation, however. Positively, this technique produces alot of naturalistic data which can be used for many purposes: the tapes can be shown to the teacher who can be given immediate feedback about her classroom; the tapes may be used for naturalistic assessment of particular behaviors which are traditionally assessed by means of standardized tests (e.g., reading, first language and second language development); and the data can also be used by administrators who wish to observe some of the processes of their particular program at work. On the negative side, the equipment is both expensive and awesome. The techniques used to collect the data are also expensive in terms of man hours. The evaluators must be given some training. Finally, one cannot feasibly gather data on large numbers of individuals or classrooms.

Despite its problems, however, observational studies of bilingual classrooms have been done in the past. In most cases, however, these researchers were not primarily interested in a description of the processes of bilingual schooling. For example, both Shultz (1975) and Phillips (1975) did observational studies on code switching in the bilingual classroom, focusing on this phenomenon per se rather than on the larger educational context. Townsend and Zamora (1975) conducted an observational study of bilingual classroom interaction patterns, but they focused primarily on the teachers and not on the children. In addition to limitations in scope, these studies suffered from methodological weaknesses as well. Direct classroom observation (used by Phillips & Townsend) must be done on the spot, with no opportunity to re-examine the phenomenon. Audio tapes (used by Shultz and others) present problems in interpretation of the context of language usage. This pilot study was designed to overcome these weaknesses and to explore the feasibility of using new techniques in evaluation designs such as observational methods and videotape equipment.

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Subjects

We are going to examine the language use and interaction patterns in a Grade 1 half day bilingual classroom. Children attend this class for 1/2 a day (A.M. or P.M.) and then for the second half return to their English classrooms which are housed in various neighboring schools.

The teacher of the bilingual class is a native Anglo who has a "good" command of Spanish. She is assisted in the classroom by a student teacher who is of Mexican background. The instructional schedule in the bilingual classroom is highly structured and remains fairly constant from day to day. The two hour period is divided in the following way:
(morning schedule)
9:00 Spanish reading readiness
9:30 Recess and independent study
10:00 Arithmetic
10:30 ESL
11:00 Spanish culture or health
11:15 dismissal

The afternoon session follows in a similar fashion. According to the teacher, Spanish is the language used most often in the classroomñ except for English language arts most lessons are instructed in Spanish.

The three English teachers report that their classrooms' activities are also fairly structured. Language arts and reading groups are the focus of the morning, with math and secondary subjects (i.e. social studies, science or films) generally being taught in the afternoon. All the English teachers instruct their classes entirely in English, although one teacher has some familiarity with Spanish words and phrases. In addition, all teachers report acceptance or tolerance or mixed language use among the children in the classroom.

The children who participate in the bilingual program have been selected by their "home" school because their knowledge of English is insufficient to cope with the demands of the English classroom. Thus, the program may be designated as a transitional type--that is, it is expected that once the children's English language proficiency is adequate to meet these demands, they are switched out of the bilingual class.

We selected three children from this bilingual classroom whose language interaction patterns were monitored in the bilingual and English classrooms. One child is male, two female one attends the bilingual class in the morning, the other two in the afternoon. The children are classified by the bilingual teacher as being Spanish dominant. The children attend three different English schools, and in each of their classes there are some children of a similar linguistic background.

Method

The following is a description of the taping methods and schedules that are being followed: Each child will be taped three times throughout the year (November, February, May). The child is taped each time for a full school day (1/2 day bilingual, 1/2 day English).

In each taping session the target child wears a wireless mike. Two video cameras are used--a stationary and a portable camera. The stationary camera and microphone are focused on the classroom as a whole. It attempts to capture the mood and activity of the whole class, making sure to point out the target child's role vis a vis the whole. The portable camera focuses directly on the target child and his immediate social surroundings. This camera also records the target child's conversation through the wireless microphone. It is hoped that this arrangement will provide a richer contextual setting for later interpretation of language and social behaviors.

After the first taping session all the teachers were interviewed to obtain information concerning the teacher's language background, her attitude towards bilingual education, and her description of language use patterns in the classroom. In addition, parent interviews were conducted with each of the target children's families to obtain information about language background, family interaction patterns, and language use at home.

In the next section, we will discuss the analysis and results obtained from our first set of data. Part I will cover language interaction patterns and Part II will focus on the social and psychological aspects of language use for a child during his social interactions in the classroom. This first analysis was done by Bruck and Shultz; the second by Brown and Walcer.

Part I Language Interaction; An Ethnographic Analysis

As mentioned earlier in our introduction, language interaction patterns in bilingual classrooms have been studied previously by other researchers. Phillips (1975) for example, used a classroom observation coding system in her study of code switching in bilingual classrooms. Shultz (1975), Legaretta (1974) and Ginishi (1976) have examined similar language behaviors by means of audio tapes. However, as all these authors admit, their methods for collecting data have often proven to be inadequate in that the contexts of the conversations are unknown. The use of video equipment solves this problem as one has a visual record of the contexts of the interactions. To our knowledge, this is the first study of language use in a bilingual classroom using video equipment.

Procedure-

A coding system was devised to analyze the data from the video tapes after each taping. This coding scheme was designed according to the following criteria:

a. it could be easily taught to a naive coder
b. it was not inferential
c. it did not require much transcription of the tapes

In the bilingual classroom every interaction in the language environment of the target children was coded. In the English classroom only interactions between the target children and peers were coded. For the purposes of this analysis, an interaction was defined as a series of exchanges by two or more speakers around a common topic or activity which is temporarily linked. Language environment refers to the task that is occurring in an activity in which the target child is participating or present. Thus in a lesson where the target child is participating, all interactions would be coded--this includes interactions between the teacher and another child. However, if the target child was participating in another activity and the mike picked up a conversation between a teacher and a child at the other end of the classroom, this would not be coded.

Each interaction was coded in the following way:

Initiator
Addressee
number of seconds of talk in Spanish
number of seconds of talk in English
context of the interaction
gloss of the interaction
Every time there was a code switch within an interaction (conversational) it was noted and transcribed.

The coding has so far been done by one person whose codings have been periodically checked. By the end of the project we will obtain reliability coefficients. In the analysis reported today we will present data for the first taping sessions for the two girls. We will attempt to answer the following questions about language use patterns in the bilingual and English classrooms:

1. How much time is devoted to each language in the bilingual classroom in terms of (a) seconds, and (b) interactions?

2. For what purposes are each of the languages used in the classrooms?

3. Why do code switches occur? Do these data give us some hints as to the status of each of the languages in the classrooms?

4. Do the patterns of peer-peer language interactions differ in the bilingual and English classrooms? Do the children speak to one another more in the English or bilingual classroom? What language do they use? For what purposes do they use different languages when talking among themselves?

Results

1. Language Use- Amount of Time

We have two measures of amount of time spoken. The first is in terms of the total amount of time in seconds, and the second is in terms of the number of interactions the child was involved in. Table 1, below, summarizes these results in terms of percentages of language use in the bilingual class.

Table 1

	Seconds		Interactions		
	English	Spanish	English	Spanish	Mixed
Juana	57%	43%	38%	42%	20%
Priscilla	32%	68%	32%	51%	17%

These figures may be deceiving, however. The reason for the large discrepancy between percentage of time for the two students in the two languages is that during Juana's taping session there was a long English language arts lesson which was mostly teacher led. Therefore, there was a lot of talking during the lesson and it was all in English. Because of this, the percentage of English during Juana's day was greatly inflated. If this lesson is taken out, there was a preponderance of Spanish spoken in the classroom on both days. From this, we discovered that the amount of either language spoken in the classroom on any given day was dependent upon the length of time and the type of lesson being taught: whether the lesson was teacher led, teacher lecturing to a group, or students sitting at their desks working independently.

These figures also don't show how the two languages were used. The fact that more Spanish than English was spoken in the classroom could lead one to believe that Spanish was the more important language. This is not necessarily the case, however. To understand the relative importance of the two languages in the bilingual classroom, we need to examine how the two languages were used.

2. Language Use- Functional Analysis

Looking first at teacher talk* in the bilingual classroom, our functional analysis was carried out along two dimensions: (1) activity and (2) language functions. With regard to activity, the bilingual teacher tended to use English during transitions from one activity or lesson to another. There was only one exception to this pattern--the student teacher used Spanish once in telling children to move from one part of the room to another to start a lesson. The teacher used Spanish, however, for most of her instructional discourse, with exceptions occurring during English language arts and for performing certain language functions.

*Note: When we say teacher talk, we are referring to both the teacher and the student teacher, unless otherwise noted.

The teacher generally used English to comment on what was going on in the classroom and to tell students what to do. She sometimes used Spanish for this purpose, but she did so only in the middle of lessons, never at the beginning or end. Spanish was used by the teacher for providing information, facts, opinions or ideas. While English was used for this purpose in a few cases, these cases occurred only when the providing of information was couched in an utterance that started with the teacher telling students what to do in English, and ending with the teacher telling students what to do in English. This differential use of the two languages is consistent with the findings of Shultz (1975); that English is generally used in bilingual classrooms as the language of management and discipline while Spanish is used as the language of instruction. In addition, we found that the teacher always used English when speaking to the student teacher and vice-versa. Genishi (1975) obtained the same result, even though the teacher in her study was a native born Spanish speaker.

It is interesting to note that the bilingual teacher used more Spanish for commenting and telling people what to do on the day of Juana's taping than on Priscilla's day. We cannot be sure if this was something unusual, occurring only on that particular day, or if it was a general pattern; namely that in the mornings the teacher used Spanish for these purposes more frequently than in the afternoons. This is something that will be checked when we analyze the data from the next taping sessions.

A functional analysis of child initiated interaction with the teacher in the bilingual class yielded different results for our two subjects. All of Juana's initiations to the teacher of the bilingual classroom were in Spanish. Priscilla, on the other hand, initiated interactions with the teacher in:

a. English during English language arts
b. Spanish during Spanish language arts
c. English during math and culture lessons, even though the teacher was conducting the lessons in Spanish.

In this last case, we can only speculate as to why this is so. It could be that by switching to English, Priscilla was more likely to get the teacher's attention and gain the floor without being sanctioned.

3. Peer-Peer Language

With regard to peer-peer interaction in the bilingual class, it appears that students use English while doing routinized, structured activity, for example reading a book or playing a game. Students used Spanish while negotiating an activity, for example choosing a book, or arguing about rules of a game. Note that this use of language by the students in the bilingual classroom is in direct contrast to language use by the teachers in the bilingual classroom. Teachers used English to set up and negotiate situations--students used Spanish. Teachers used Spanish during prolonged activities and students used English. Table 2 illustrates this relationship.

Table 2

	Prolonged Activity	Negotiation of Activity
Teachers	Spanish	English
Students	English	Spanish

In the regular classroom, the rule for differential language use seems to be

that if you speak both languages (as both subjects do) then choose the language your addressee knows best or speaks most often. The best example of this "rule" are sequences from Priscilla's tapes, in which she speaks to Patty (on her right) in Spanish and David (on her left) in English.

Thus, as seen above, language was used very differently by students in the two classrooms when they were interacting with peers. In the bilingual classroom, language was chosen on the basis of the identity of the addressee.

Peer-peer interactions occurred under different circumstances in the two classrooms. In the bilingual classroom, peer-peer interaction took place only during transitions from one lesson to another and at times when students were working in small groups and the teacher was not involved. In the regular classroom, however, peer-peer interaction seemed to be independent of overall classroom activity. It occurred during teacher led discussions, independent work times, etc.

Table 3 below indicates that both students tended to be involved in interactions in English with peers more often in the regular classroom than in the bilingual classroom. Also, in the regular classroom, both students interacted about equally with English speaking and with non-English speaking students.

Table 3

Juana	Spanish	English
bilingual	93%	7%
regular	44%	58%
Priscilla		
bilingual	54%	46%
regular	23%	77%

This presentation represents a preliminary analysis of the first set of data collected. Our focus has been on patterns of language use, specifically code switching behavior in the bilingual and English classrooms. What follows is another analysis of the same data, with a different focus and purpose.

Part II Social and Psychological Aspects of Language Use; An Ecological Analysis

In the first segment of this presentation the focus was upon the differential use of languages, or code switching behavior, on the part of the target children and their immediate social environment. In this portion of the presentation the focus will broaden to consider "language use" in terms of what is being expressed by the target children in the course of their social interactions. In other words, we are concerned here with an analysis of the motivational, personal and social aspects of speech functioning within a classroom, or the communicative intent of language use.

Here we are interested in the ecological question of whether language use, as defined above, varies across "behavior settings" (Barker, 1968); in this case, the bilingual and all English classrooms. Is there something about the bilingual classroom as an interactive environment which exerts different behavioral forces upon inhabitants of that setting? What does the setting "bilingual classroom" mean subjectively to a child interacting with other members of that setting? From these general questions we move to the more specific behavioral components of our analysis. We are interested in asking:

(1) Is our subject more verbal in the bilingual classroom or the English classroom?

(2) Are there more peer interactions in one or the other settings? Does the target child seek out other Spanish dominant children in the English classroom?

(3) Does he participate more often in teacher directed activities in one setting or the other?

(4) What is the nature of the child's interactions from one setting to the next--is he more social, more cooperative, more involved in studies, etc.?

As we attempt to answer these questions about how the child behaves in the two settings, we hope to narrow the focus of our analysis to the child himself. Ultimately, we would like to speculate about what the data tells us regarding the child's view of himself as he functions in these two settings. From this we can then conjecture about the possible relationship between educational behavior setting (i.e. bilingual class vs. regular class) and the dynamics of personality development and growth--is it true, for example, that bilingual education is conducive to such growth for the bilingual/bicultural child?

Lastly, we would like to raise a methodological point in suggesting that observational methods such as those we are exploring here have relevance to traditional evaluation designs--particularly in the area of self concept measurement. Through the use of such techniques we can obtain some measure of concurrent validity for the assessments of self concept currently in use, and also (and perhaps more importantly) obtain a first hand view of what scores from such tests might mean in behavioral terms.

Procedure

This study differs from the previous analysis reported in that it represents a case study of only one child's language across settings. In this analysis all of Priscilla's utterances were transcribed from the video tape and

coded descriptively according to the following categories:

I. Nature of the interaction
   a. I= Interaction- One or more verbal or non verbal turn taking sequences with others.

   b. C= Commentary- Utterance directed to self, or to other with no discernable verbal or non verbal response.

   c. P= Participation- Indicates spontaneous verbal response to a teacher directed activity. (May also be coded as an interaction, if discussion ensues and there follows one or more verbal turn taking sequences).

II. Predominant language of utterance (utterance is defined as one turn to talk).

III. Brief description of lesson context.

IV. R= Response to direct question (uncodeable).

V. Description of listener
   a. English dominant peer/ Spanish dominant peer
   b. English teacher / Bilingual teacher
   c. Self
   d. Group

Following the descriptive coding and transcription Priscilla's utterances were coded again from the video tapes for content and communicative intent, using a modified version of the abbreviated FIS-P instrument (Functions of Interpersonal Spontaneous Preschool Speech) developed by Schacter, et. al. (1974). The present version of the coding schema , summarized below in Table 4 is more general than the original version except in the "Learning Implementing" category, which was expanded to contain a more precise breakdown into sub scores. Every utterance was coded for communicative intent except those which were (1) a response to a direct question (2) a part of a "participation" sequence or (3) incomprehensible. Descriptive coding and content coding were done by the same coder.

Table 4
FIS-P
MODIFIED ABBREVIATED FORM

Personal

1. Expressive statement: functions purely to express emotion.
2. Desire Implementing
   a. asserts desire
   b. stops frustrator of desire
3. Possession
   a. asserts possession rights
   b. stops frustrator of possession rights
4. Ego Enhancing
   a. asserts pride in competence or achievement
   b. assumes teacher role regarding competence or knowledge
   c. denigrates competence or achievements of others
   d. asserts pride (general)
   e. assumes teacher role (general)

(Table 4, continued)

f. denigrates (general)
g. teases or tests limits. Playfully attacks peers, or the rules of authority

Social

1. Self Referring: Including statement functions to join S to other by self referring the other's statements
   a. me too - drawing parallel to self
   b. me better- competitively stating
2. Joining statement: Functions to join other to S with S actively initiating the union
   a. joining
   b. excluding self or others
3. Collaborative: Statement functions to initiate or maintain a role differentiated social interaction
   a. collaborative discourse
   b. collaborative dramatic play
   c. collaborative chanting
   d. collaborative giving (nurturant statement)

Cognitive

1. Learning Implementing: Statement functions purely to implement learning about objective world, social world, or how to succeed in a task. May be pursuit of new knowledge or restatement of old knowledge.
   a. objective
   b. social
   c. functional
2. Reporting: Statement functions to share an observation, thought or experience with other. Reporting about:
   a. self
   b. other
   c. things

Results

In answer to our first question--is Priscilla more verbal in the bilingual classroom or the English classroom?--the data in Table 5 appears to indicate that Priscilla talks more in the English class than in the Bilingual class; almost twice as much.

Table 5

	Total Utterances	% English	% Spanish
Bilingual	104	59 *	41
English	214	80	20

* The high % of English interactions in the Bilingual classroom is, in part, a result of a long English language Arts lesson, conducted entirely in English.

These figures, however, are partially confounded by the type of classroom routine engaged in the day of our observations. Priscilla only participated in one small group lesson in the English class and two whole class lessons--the rest of the morning was spent in independent seat work activities which afforded much opportunity for verbal interaction. The bilingual classroom, on the other hand, was more highly structured around teacher directed activities. Priscilla spent the afternoon in two teacher directed small group lessons and one whole group lesson, with only two opportunities for free interaction.

This difference in classroom routine is also reflected in the number of peer interactions vs. teacher interactions (see Table 6) recorded in the two classrooms.

Table 6

	Total Interactions	% Peer	% Teacher
Bilingual	24	54	46
English	51	92	8

And, Table 7 below illustrates that within the English classroom Priscilla's peer interactions were predominantly in English to English domininant children.

Table 7

	Total No. Peer Interactions	English	Spanish
English class	47	72	28

These results appear to indicate, however, that : (1) Priscilla speaks more in the English classroom than in the bilingual class. (2) She also has more interactions in the English classroom. (3) Of her interactions, most are with peers. Although in the bilingual class almost half of the interactions are with the teacher. (4) In the English classroom her peer interactions are mainly in English, to English dominant pupils. (5) In both classrooms, Priscilla speaks more English than Spanish, though she speaks almost twice as much Spanish in the bilingual class than in the English class.

This last result appears on the surface to contradict Shultz's findings that Spanish is the predominant language spoken in the bilingual classroom. It must be kept in mind, however, that Shultz's analysis is based on all language recorded in Priscilla's immediate language environment. Therefore, it is likely, that as Shultz concluded, Spanish is spoken by most of the members of the class most of the time, though Priscilla herself speaks English more often than Spanish in the same context.

Several additional descriptive findings may also be mentioned. Our tabulation of participatory utterances, illustrated in Table 8, indicates that Priscilla's spontaneous participation in teacher directed activities is about equal in both settings (though slightly higher in the bilingual classroom).

Table 8

	No. of Participations
Bilingual	11
Regular	9

Again, this data must be weighted by the fact that in the bilingual class there were more opportunities for participations, because there were more teacher directed activities.

In addition, the breakdown of instances of code switching behavior (Table 9) confirms the pattern reported by McClure (1975). In this age group (6 years old), it appears that transitional code switches (T), based upon judgements of the listeners dominant or preferred language, are most frequent. Within interaction (WI) and within utterance (WU) code switches are less common in younger children, but increase in frequency with age.

Table 9

	Code Switching		
	I	WI	WU
Bilingual	15	8	7
Regular	25	5	1
Total	40	13	8

Within interaction and within utterance code switches occurred more often in the bilingual classroom, where language use appeared to be dependent upon function and the activity engaged in (Shultz, 1975). Transitional code switches were more frequent in the regular classroom, where Priscilla alternated speaking to David in English, and Patty in Spanish.

Let us move now to an analysis of what these data reveal about her reasons for speaking, or the personal-motivational aspects of her speech interactions. Table 10 (A,B,C) summarizes the results of the content analysis of Priscilla's speech across settings.

Table 10

Content Analysis of Priscilla's Speech Across Settings

A

	Personal						
				4			
	1 Exp	2 Desire	3 Possession	Pride	Teacher Role	Denigrate	Tease
Bilingual	4	2	4	18	14	12	13
Regular	1	3	3	2	10	0	0

B

	Social		
	1 Self Refering	2 Joining	3 Collaboration
Bilingual	7	16	13
Regular	2	20	11

C

	Cognitive					
	(1) Learning Imp.			(2) Reporting		
	Abj.	Social	Funct.	Self	Obj.	Others
Bilingual	20	24	2	21	6	22
Regular	6	1	1	17	4	3

Several things emerge from these data. Looking first at the "Personal" category (A), we can see that Priscilla communicates more emotion through expressive statements in the regular class and she expresses desires and possession rights about equally in the two settings. Most interesting, however, she evidences many more instances of "ego enhancing" speech in the regular classroom than in the bilingual classroom. This is particularly the case in her interactions with one child, David, who sits next to her in the English class. David is an English dominant child with whom Priscilla engages in friendly competition and who is the recipient of most of her denigrating and teasing remarks. He is also the one to whom she asserts most of her statements of pride, most of her self referring comments and most of her reporting about self--in English.

In line with these findings are the results shown in (C), categories 2 and 4 of the regular class. Priscilla's questions are more directed at finding out information about other people, or making reportive statements about others. She appears to use this information in a competitive way, i.e. "I'm reading this. Where are you at?"

Almost all of her Spanish discourse in the English classroom is directed to a Spanish dominant child named Patty, who sits next to her on the other side. Priscilla's relationship with Patty appears to be of a helping, instructive nature-- about half of all of Priscilla's "social" utterances are with Patty (of these most are joining and collaborative). Moreover, over half of all of the ego enhancing, teacher role taking category in the English classroom are found in utterances to Patty. The rest are divided among David and the other children with whom Priscilla interacts in a joke telling sequence.

From these data, we can speculate about what the English classroom represents subjectively to Priscilla. It appears to be a context where she needs to show her peers that she is "on top" of the situation and can come out ahead in any competition (academic or social). It also appears that within the English classroom, Spanish is used in an instructive and somewhat peripheral manner mainly to explain to Patty what is going on in the rest of the classroom activity--i.e. explaining who is ahead in a race to finish work, or translating a joke.

These findings may be contrasted with Priscilla's interactions in the bilingual class. If we examine the utterances found within peer interactions only, we find a proponderance of more social and collaborative statements, and some teacher role playing--but no denigrating and teasing utterances. Teacher interactions, on the other hand, are comprised of most of the self reporting, self referring and assertion of pride categories, with utterances predominantly in English. Many more learning implementing statements (or questions) occur in this setting as well. It is interesting to note that the only incidence of a negative self report ("I can't do that") occurred in the bilingual setting, in an interaction with the bilingual teacher. From these findings we may portray the bilingual class as a place where Priscilla engages in more social interactions with peers, using both English and Spanish in her conversations. It is also a setting where she interacts with the teacher in a way which suggests a desire for attention, approval and support.

Summary

It would appear from the data presented that the two classrooms do, indeed represent separate "behavior settings" to our target child, and that she adjusts her behavior according to how she perceives the interpersonal situation. It appears that the English classroom represents a more competitive climate, the bilingual class a more collaborative climate.

From the point of view of Priscilla's self image, we can speculate that English plays an important role in the maintenance of a positive self image, in that she appears to actively solicit the attention and respect of her English speaking peers, as well as the attention of her bilingual teacher, using English most frequently.

As was mentioned before, these conclusions are tentative and must also be weighted by the type of classroom routine followed by the two classroom teachers. The results may simply be an artifact resulting from the fact that in the bilingual class Priscilla simply didn't have as much opportunity to engage in free interactions with her peers. We will look to see if this is the case in our further analyses.

Further, we wish to emphasize that this analysis and the above comments are highly speculative and interpretive. We are making no attempt to generalize these findings to other students or classroom settings at this point--this is a case study and a subjective analysis: an exploration into the possibilities which this type of methodology offers. We invite your comments on our interpretation of the data and your suggestions for further analyses.

Conclusions

The analyses which have been reported here represent preliminary examinations of the data collected so far. Our intention is to continue these types of analysis over the entire corpus of data (all three tapings) for all subjects. In addition, we hope to do a developmental analysis of the data over the entire year, comparing the taping sessions for changes in language usage and improvements in proficiency. Lastly, we plan to do a correlational analysis of the information obtained in our teacher and parent interviews.

On the basis of our experiences to date, however, we can make several statements about the feasibility of using this technique for evaluation purposes.

Negative aspects: We have sampled a very small number of situations and we do not know how representative these are of other classrooms. We ran into the common problems of longitudinal surveys; not only did one subject leave, but so did a teacher. In addition, the time involved in the project was massive:

taping time - 3 people on site coding time
transcription time
data analysis

But there are also positive aspects: First, we have a great deal of analyzable and analyzed data. It may only be on three children, but if it were on 3000 it might be lost in the computer and be uninterpretable. Thus in limiting our numbers, we at least get a good perspective on <u>one</u> situation. These data could not be obtained with the same reliability and validity using other techniques.

The data presented in this paper gives us some understanding of the patterns of interaction in the bilingual classroom. We believe that this type of data are important in helping us to interpret our product data.

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